

CLAIMS:

1. A process for the activation of a supported catalyst for the selective hydrodesulfurization of a naphtha feedstock comprising:
 - a) heating the catalyst to a temperature of about 350 to about 450°F in the presence of hydrogen and hydrogen sulfide, and in the presence of an olefinic naphtha at an effective pressure between 100 and 500 psig;
 - b) holding the catalyst at about 350 to about 450°F for an effective amount of time so that at least 20% of the metals capable of being sulfided are sulfided; and
 - c) further heating said catalyst to a temperature from about 550 to about 700°F in the presence of hydrogen and hydrogen sulfide and in the presence of an olefinic naphtha and at an effective pressure such substantially all of the remaining metals from step (b) that were not sulfided are sulfided.
2. The process of claim 1 wherein the naphtha feedstock is a cracked naphtha feedstock and contains about 5 wt.% to about 50 wt.% olefins.
3. The process of claim 2 wherein the naphtha feedstock has a diene concentration of about 0.02 to 15 wt.%.
4. The process of claim 1 wherein the temperature of step a) is reached by heating at a rate of about 5.6°C to about 56°C per hour.
5. The process of claim 1 wherein the total pressure is from about 100 to about 500 psig.

6. The process of claim 2 wherein the naphtha feedstock is a cat naphtha and contains a sulfur concentration of about 0.01 to 0.7 wt.%, based on the total weight of the naphtha feedstock.

7. The process of claim 6 wherein the naphtha feedstock is selected from the group consisting of cat naphtha, coker naphtha, hydrocracker naphtha, resid, and hydrotreater naphtha.

8. A process for the selective hydrodesulfurization of a naphtha feedstock containing olefins such that less than 50 wt.% of the olefins, based on the naphtha feedstock, are saturated comprising:

contacting the naphtha feedstock with a catalyst that has been activated by a process comprising:

- a) heating the catalyst to a temperature of about 350 to about 450°F in the presence of hydrogen and hydrogen sulfide, and in the presence of an olefinic naphtha at an effective pressure such that the environment is not a reducing environment;
- b) holding the catalyst at about 350 to about 450°F for an effective amount of time so that at least 20% of the metals capable of being sulfided are sulfided; and
- c) further heating said catalyst to a temperature about 550 to about 700°F in the presence of hydrogen and hydrogen sulfide and in the presence of an olefinic naphtha and at an effective pressure such that the environment is non-reducing, so that substantially all of the remaining metals from step (b) that were not sulfided are sulfided.

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9. The process of claim 8 wherein the naphtha feedstock is a cracked naphtha feedstock and contains about 5 wt.% to about 50 wt.% olefins.
10. The process of claim 9 wherein the naphtha feedstock has a diene concentration of about 0.02 to 15 wt.%.
11. The process of claim 8 wherein the temperature of step a) is reached by heating at a rate of about 5.6°C to about 56°C per hour.
12. The process of claim 8 wherein the total pressure is from about 100 to about 500 psig.
13. The process of claim 9 wherein the naphtha feedstock is a cat naphtha and contains a sulfur concentration of about 0.05 to 0.7 wt.%, based on the total weight of the naphtha.
14. The process of claim 13 wherein the naphtha feedstock is selected from the group consisting of cat naphtha, coker naphtha, hydrocracker naphtha, resid, and hydrotreater naphtha.
15. The process according to any of the preceding claims wherein said olefinic naphtha is a heavy cat naphtha.